# Regional Energy Efficiency Policy Recommendations

Latin America and the Caribbean









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discussed and developed. We are also very grateful to the many regional energy efficiency experts and international development agencies who contributed to this report including the Inter-American Development Bank (IDB), CAF - Development Bank of Latin America, and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

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# Background

The IEA and its member countries have identified energy efficiency as the most rapid and cost-effective way to address energy security as well as environmental and economic challenges in the energy sector. To help countries improve their energy efficiency, the IEA developed a set of 25 energy efficiency policy recommendations in 2008 and updated them in 2011. These 25 recommendations have proven an effective way to increase awareness and obtain high-level political support for scaled-up energy efficiency efforts.

The IEA is working with regional partners around the world to identify energy efficiency policy recommendations that respond to regional energy efficiency opportunities, barriers, and policy needs. The IEA aims to bring these recommendations to the attention of political leaders and technical networks in each region. The IEA and its regional partners have convened three Experts' Roundtables to develop region-specific energy efficiency policy recommendations.

The first publication was tailored to the needs of the Arab-Southern and Eastern Mediterranean Region (Arab-SEMED). The second publication focused on the Southeast Asian region.

This report presents the recommendations from the Experts' Roundtable for Latin America and the Caribbean.

The Experts' Roundtable took place in October 2014 in Lima, Peru, in cooperation with the United Nations Economic Commission for Latin America and the Caribbean (UN ECLAC) and the Ministry of Energy and Mines of Peru. The findings from the Roundtable were also briefly discussed during a Regional Sustainable Energy Training Week for Latin America that took place in November 2014 in Santiago, Chile.

More than 50 energy efficiency experts from Latin America and the Caribbean contributed to this report and shared their views on specific regional energy efficiency opportunities, market barriers, and policy needs. As a result, 20 region-specific energy efficiency policy recommendations are proposed to overcome the challenges and enable the mainstreaming and increased adoption of energy efficiency measures in the region.

## Foreword

#### United Nations Economic Commission for Latin America and the Caribbean

The United Nations Economic Commission for Latin America and the Caribbean (UN ECLAC) was pleased to join the Ministry of Energy and Mines of Peru and the International Energy Agency (IEA) in conceiving and delivering the Latin American regional workshop on energy efficiency policy recommendations (Lima, October 2014) and developing the recommendations contained in the present publication.

We consider both the workshop and this document to be a significant contribution in increasing the awareness of policy makers in the Latin American region of the importance of energy efficiency and the need for government policies that support energy-efficiency investments and activities.

Furthermore, the publication of these recommendations is very much in line with the "Recommendations on Energy Efficiency Policies and Actions" approved by representatives from 21 Latin American countries that participated the "V Energy Regional Policy Dialogue on Energy Efficiency" (Lima, October 2014), organized by UN ECLAC with the support of the Peruvian Government, the German and French development agencies, the World Bank, the Inter-American Development Bank (IDB), the Latin American Parliament and - of course - our strategic partner, the IEA.

The set of policy recommendations presented here represent an outstanding input to the UN ECLAC's Energy Efficiency Regional Policy Dialogues and to our member states, with a view to improving the overall energy efficiency governance frameworks in the region.

# Overview of Regional Recommendations

#### Cross-sectoral



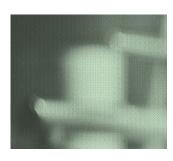
- 1 Designate lead institutions for planning, coordinating, implementing, and monitoring energy efficiency policies and programmes
- 2 Establish regular energy efficiency data collection and indicators
- 3 Remove inefficient energy subsidies
- 4 Stimulate investment in energy efficiency
- 5 Develop information and awareness campaigns and educational programmes

#### Buildings



- 6 Improve the energy performance of building components and systems
- 7 Improve building energy performance
- 8 Implement energy labels, certificates or disclosure of energy consumption
- 9 Aim for net-zero energy consumption in buildings

#### Lighting, Appliances & Equipment



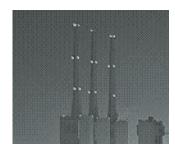
- 10 Implement mandatory Minimum Energy Performance Standards (MEPS) and energy labels for lighting, appliances and equipment
- 11 Phase-out least efficient products
- 12 Engage in regional collaboration and harmonisation of standards and testing procedures
- 13 Promote market transformation policies

#### Transport



- 14 Improve transport system planning and efficiency
- 15 Implement mandatory vehicle efficiency standards and labelling
- 16 Promote fuel-efficient non-engine components through standards and test procedures
- 17 Enhance vehicle operational efficiency

#### Industry



- 18 Promote energy management and energy efficiency projects
- 19 Promote high-efficiency industrial equipment and systems
- 20 Stimulate the development of energy efficient products and services for small and medium-sized enterprises (SMEs)

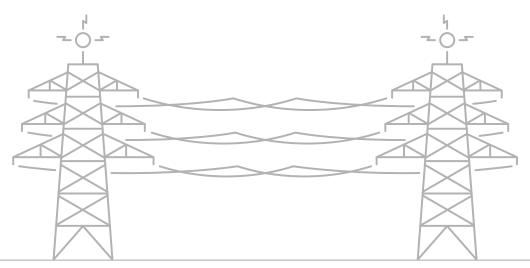
# Cross-sectoral

Economic growth in Latin America and the Caribbean is closely linked with energy consumption, and better access to energy has enabled improvements in the quality of life of many people in the region. However, it has also meant a greater dependence on fossil fuel imports, a particular concern in the Caribbean where electricity prices are generally high as a result of dependence on costly fossil fuel imports for electricity generation.

For both Latin America and the Caribbean, there are some barriers that are common across all sectors and are hindering improvements in energy efficiency. These regional cross-sectoral barriers include:

- Inefficient energy price subsidies
- · Limited local expertise and capacity to identify and explore energy efficiency opportunities
- · Lack of ongoing institutional decision-making capacity
- Limited planning and coordination between ministries
- Differences in the quality and availability of data and information on the energy sector and energy efficiency
- · Insufficient incentives for energy companies to promote energy efficiency
- Inadequate financing mechanisms for energy efficiency

Governments can play a key role in overcoming these barriers and ensuring there is a solid institutional framework to successfully accelerate implementation of energy efficiency measures.





### To improve energy efficiency across all sectors, the Roundtable participants recommended that governments:

### 1. Designate lead institutions for planning, coordinating, implementing, and monitoring energy efficiency policies and programmes

The majority of the countries in the region have limited capacity and resources to dedicate to energy efficiency, particularly in the Caribbean. It is especially important to make use of untapped synergies between efforts across governments as well as between government and the private sector. Therefore, governments should consider establishing an institutional framework and sound institutions to lead the planning, coordination, implementation and monitoring of energy efficiency. These institutions would be responsible for executing measures according to a defined strategy and ensuring integration of cross-sectoral policies with relevant public and private sector stakeholders.

#### 2. Establish regular energy efficiency data collection and indicators

Data collection during the design, implementation and evaluation phases is an essential part of any energy efficiency programme. The compilation and analysis of energy data can provide governments with critical information for decision-making. This includes conceptualising future scenarios to determine the best strategies for energy efficiency policies covering multiple sectors in the long-term. The data gathered enables the creation of baselines and indicators which are necessary for tracking progress and conducting monitoring and evaluation of energy efficiency initiatives. Governments should establish long-term energy data collection and analysis regimes and should also have the authority to require data submissions. Governments should also continue to engage in regional co-operation to establish data collection frameworks, build data collection capacity, and, where possible, refer to international data collection methodologies.

#### 3. Remove inefficient energy subsidies

Low energy prices, as a result of fossil fuel and electricity subsidies, result in higher energy consumption and reduce the demand for energy efficiency investment, and as energy consumption rises, these subsidies can become a major financial burden to governments. However, the effect of removal of subsidies on fossil fuel prices can be a major challenge for governments.

#### 4. Stimulate investment in energy efficiency

The creation of self-sustaining energy efficiency markets can play a key role in the effective implementation of energy efficiency policies. Governments should ensure that supporting mechanisms are in place to facilitate both private and public sector investment in energy efficiency. These mechanisms can involve the:

- Stimulation of private investment through public-private partnerships
- Development of financing schemes for energy efficiency with local financial institutions adapted to local needs
- Building of local capacity and certification of qualified professionals and Energy Service Companies (ESCOs) including standardisation of energy performance contracts
- Use of public funds for the implementation of energy efficiency projects particularly focusing on small and medium-sized enterprises (SMEs)
- Development of information and awareness campaigns to highlight energy efficiency opportunities in different sectors, prioritising the most energy intensive sectors, or those with greatest potential for rapid improvement.

Close interaction with relevant local and regional entities in identifying, disseminating and implementing energy efficiency projects can also strengthen the development of the energy efficiency market.

#### 5. Develop information and awareness campaigns and educational programmes

The awareness and education of various stakeholders in the energy business, as well as end-use consumers is seen as the first step in the deployment of energy efficiency best practices across all sectors. Regular communication and outreach campaigns, as well as the inclusion of educational programmes on energy efficiency in schools and training of technical experts, can ensure energy efficiency is an integral part of decision-making processes. Close collaboration between energy and educational agencies is needed to successfully support long-term energy efficiency efforts.



In 2012, buildings accounted for 16% of total final energy consumption in Latin America and the Caribbean. This is likely to increase with the expansion of urban areas and with further economic growth and improvement in standards of living. A strong driver for this growth is the inevitable rising demand for, and use of, appliances and equipment, such as air conditioning.

The main challenges for Latin America are the wide diversity of climatic zones requiring distinct standards that add to the complexity of developing adequate building energy efficiency codes, and the lack of awareness of consumers and construction companies of the advantages of energy efficiency. Another challenge is the lack of technical capacity and resources to establish and monitor the compliance with building codes, especially in the Caribbean region.

There is a large potential for energy efficiency in buildings which is currently unrealised in the region. To exploit this potential, and address the challenges, there is a need for policies, technical experts and a local industry capable of mainstreaming energy efficiency in buildings. The region would also benefit from greater linkages between energy efficiency improvements in buildings with enhanced health and comfort levels. To address this aspect, education and awareness of consumers are required to help them make informed decisions based on energy savings and quality of life rather than considering only the initial cost when buying or renting homes or offices.

To achieve significant energy savings in this sector, the Roundtable participants recommended that governments:

#### $\bf 6.$ Improve the energy performance of buildings components and systems by implementing:

- Minimum energy performance standards (MEPS)
- · Supply chain improvements

For buildings to improve their energy efficiency, companies and manufacturers of appliances and equipment need to be supported by an effective policy framework that addresses the key market barriers. Consequently, governments should provide a stable regulatory framework and standards to drive the market and respond to market needs to ensure the improvement of energy performance of both new and existing buildings.

Governments should enable minimum energy performance standards (MEPS) for building components and systems such as windows, insulation, ventilation, hot water, heating and cooling systems. Governments should also facilitate improvements in high efficiency building components and systems through the publication of best practice guidelines and enhanced research, development and demonstration programmes. In addition, governments should improve access to high efficiency building components and systems by providing financial incentives throughout the supply chain.

#### 7. Improve building energy performance by implementing:

- Codes and MEPS
- Existing building improvements
- · New building improvements

Adoption of MEPS for buildings can be a challenge and therefore governments should play a leading role, showcasing successful energy efficiency projects and providing guidelines on best practices. A holistic approach for building energy codes and MEPS should be considered covering building envelopes, appliances and equipment. Initially these could be implemented on a voluntary basis to allow enough time for market adaptation before transitioning to mandatory regimes.

For example, governments should support the development, adoption and enforcement of building energy codes and MEPS which provide a minimum quality level for buildings in the country. In the case of existing buildings, a combination of policies that improve the minimum codes and also the efficiency of buildings through renovation, operation and maintenance best practices is recommended. For new buildings, a combination of policies that enhance the minimum codes and also the efficiency of buildings during the design, construction and operation phases is recommended. For existing and new buildings, these policies could be combined with demonstration projects, financial mechanisms, technical capacity building, consumer education and introducing energy tariff structures that promote the efficient use of energy.

#### 8. Implement energy labels, certificates or disclosure of energy consumption for:

- · Whole buildings
- · Building components and systems

After addressing minimum energy performance and high energy performance in buildings and their components and systems, governments should require public display of information that will improve decision-making, including labels, certificates and public disclosure of energy consumption for selected buildings. Labelling of buildings is a useful information tool for owners, buyers and renters, supports informed decision-making and promotes a gradual shift in market demand to more efficient buildings. Labelling of building components and systems also provides useful information for consumers and technical experts who make building design decisions.

#### 9. Aim for net-zero energy consumption in buildings

As policies successfully enhance energy efficiency in buildings, it is important to continue working and aiming for the highest efficiency attainable, especially as the application and adaptation of new efficient technologies can take time to mature and come to market. Therefore, supporting research, development and implementation of low-energy use or net-zero ready buildings can be beneficial for advancing future building codes and standards. As well as driving innovation in technology these targets can also drive innovation in service provision.



# Lighting, Appliances & Equipment

In the Latin American region, the majority of countries already have mandatory energy labelling schemes for some appliances and equipment, particularly for refrigerators. However, the number of countries in the region with minimum energy performance standards (MEPS) is much lower. According to UNEP (2014)<sup>1</sup>, the introduction of standards and a transition to best available energy efficient refrigerators, air conditioners and electric fans in households in the region could result in annual energy savings of 138 TWh - equivalent to USD 20 billion.

In Latin America, there is an opportunity to mandate and expand standards and labels to other high energy consuming appliances (e.g. air conditioning and electric motors). In the Caribbean, there is strong opportunity for governments to explore regional collaboration and synergies to introduce standards and labels for lighting, appliances and equipment. In the implementation of standards and labelling, it is critical to ensure there are enough resources and suitably qualified people for monitoring, verification and enforcement.

To achieve significant energy savings in this sector, the Roundtable participants recommended that governments:

- 10. Implement mandatory Minimum Energy Performance Standards (MEPS) and energy labels for lighting, appliances and equipment by:
- Regular update and continuous improvement of standards and label categories
- Inclusion of energy performance criteria in public procurement
- Well-resourced and targeted monitoring and enforcement regimes

Governments should develop regulations and legislation for standards and labelling of lighting, appliances and equipment and ensure these are enforced and regularly updated. The standards and labelling should focus on products that will deliver the greatest energy savings as well as provide greatest economic and environmental benefits to the country.

Furthermore, governments and the public sector should be leaders and drivers of energy efficiency by demonstrating best practices and applying MEPS and labels in public procurement processes. The procurement of appliances and equipment for public sector buildings, including outdoor lighting, should always include energy efficiency criteria and refer to existing national, regional and international standards, energy labels and best practices. Dissemination of best practices in procurement can help drive the uptake of energy efficient technologies and services.

<sup>1</sup>UNEP, 2014. Equipos de Refrigeracion Eficientes en America Latina y El Caribe: Una oportunidad para enfriar el Planeta y Acelerar la Economia Regional. United Nations Environment Programme (UNEP). 2014 Monitoring and verification are key activities for enforcement of standards and labelling and should be supported by a regulatory framework. Sufficient resources should be allocated to monitoring compliance with the standards and labelling requirements.

- 11. Phase-out least efficient products through:
- · Taxation, subsidies and regulations
- Combining with MEPS, market transformation and other phase-out policies

Some countries in Latin America have opted to phase-out least efficient products, such as incandescent bulbs. These mandatory phase-out policies can cover manufacturing, imports and sales of products that consume more than a specific amount of energy. Phase-out incentives can include taxation of least efficient products and subsidies for replacement with highly efficient products. In some cases these phase-out policies can also be combined with MEPS and existing regulations for phase-out of ozone depleting substances, e.g. for refrigerators and air conditioners.

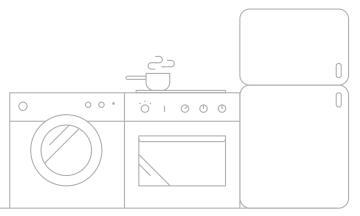
#### 12. Engage in regional collaboration and harmonisation of standards and testing procedures to:

- · Reduce compliance and testing costs
- · Increase demand for energy efficient products

Latin America and the Caribbean can benefit from greater regional collaboration on standards and labels, sharing of best practices and lessons learnt, and more importantly harmonisation of standards and testing procedures. To reduce compliance and testing costs, regular collaboration and harmonisation of standards should be promoted between the countries in the region. National standardisation agencies and relevant government stakeholders should engage with other neighbouring countries in the region to establish coordinated policies to increase the demand for efficient appliances and equipment, and to remove non-tariff barriers to trade within the region. It is important to ensure that the standards take into consideration climatic conditions and are suited to each country, this is particularly important for air conditioning appliances.

#### 13. Promote market transformation policies

Governments should continue to accelerate the introduction and uptake of energy efficient appliances and equipment. As the adoption of a regulatory framework for standards and labels can take time to be effectively implemented, market transformation policies and programmes can be complementary and enable behavioural changes leading to significant energy savings in a short period of time. To ensure successful mainstreaming of highly efficient appliances and equipment, governments should explore the introduction of financial incentives, procurement programmes, endorsement schemes and other measures focusing on cost-effective high efficiency appliances and equipment.





The transport sector represented approximately 36% of the total final energy consumption in Latin America and the Caribbean in 2012. Increasing demand for mobility in the region is causing a number of challenges for transport system planning and infrastructure, especially in Latin American cities. The percentage of freight movement through road transport is very high compared to other freight transport modes and the purchase of light and heavy duty vehicles is expected to continue to rise, resulting in greater congestion, air pollution and fossil fuel consumption which will affect economic productivity, health and energy security.

The existence of an unregulated second-hand market and the widespread use of old, inefficient and poorly maintained vehicles represents an additional challenge to several governments in the region. The lack of effective coordination between governing agencies on energy and transport and the lack of sustained public education and awareness programmes also poses a significant barrier to improved efficiency.

Under the Sustainable Transport Forum for Latin America - Bogota Declaration 2011², a number of Latin American countries have committed to providing sustainable and efficient transport systems. The Avoid-Shift-Improve model refers to the following best practices to enhance energy efficiency in the transport sector, which could be applicable to the region:

Avoid travel required through integrated land-use planning and improved logistics for freight

Review existing transport policies to enhance energy efficiency Promote and develop alternative efficient means of transport such as Bus Rapid

Transit (BRT)
Review subsidies and taxation in the transport sector in order to promote efficiency and encourage alternative fuels

Efficiency of vehicles and fuel technologies Limit the age of imported used vehicles Road infrastructure to reduce congestion Vehicle taxation according to efficiency Vehicle inspection and maintenance Subsidy schemes to replace old inefficient heavy-duty vehicles

<sup>2</sup>http://www.uncrd.or.jp/content/documents/201106\_Bogota-Declaration\_Eng.pdf

To achieve significant energy savings in this sector, the Roundtable participants recommend that governments:

#### 14. Improve transport planning system and efficiency by:

- Diversification of transport systems and fuel sources
- · Coordination between national, regional and local authorities
- Complementary financial measures

Governments should promote integrated collective transport and enable diversification of transport systems and fuel sources, especially in large urban areas. When formulating and developing policies it is important to clearly define financing and incentive schemes and ensure budget availability for those initiatives. Enabling policies should target improving the transport efficiency at local, regional and national levels. Governments also need to eliminate fossil fuel subsides as these undermine the competitiveness of energy efficient transport technologies.

Local authorities should adopt land-use planning instruments allowing for urban evolutions having density (e.g. compact city) and functional characteristics (e.g. mixed use) that reduce mobility needs, are compatible with the provision of high quality public transport and encourage the selection of non-motorised transport modes. Public authorities should conceive urban developments along transit-oriented axes, capturing land value to finance the development of necessary infrastructure.

Besides high capacity energy efficient public transport modes, fuel taxation and other financial measures, at the national and local level (e.g. from congestion pricing), can also increase the uptake of energy efficient technologies (such as electrification) that improve the environmental performance of vehicles.

#### 15. Implement mandatory vehicle efficiency standards and labelling by:

- · Regular update of standards
- · Complementary incentives and taxation policies
- · Harmonisation of standards

The adoption of mandatory fuel efficiency standards and labelling for road vehicles is recommended as an effective tool to deliver fuel efficiency improvements. These are especially relevant for energy intensive transport modes, such as cars, light commercial vehicles and trucks. The standards and labels should be regularly reviewed and updated, and applied to both new and existing vehicles. The standards and labels can also stimulate technological innovation in combination with incentives and tax schemes that influence decision-making and accelerate market uptake of efficient and low emission vehicles. Governments should also explore opportunities for regional harmonisation of vehicle and fuel efficiency standards.

#### 16. Promote fuel-efficient non-engine components through standards and test procedures

The efficiency of vehicle components such as tyres, air conditioning and aerodynamic devices can play an important role in enhancing overall vehicle fuel efficiency, especially for heavy-duty vehicles. To improve the performance of these components, the adoption of international and/or regional standards and test procedures would be appropriate, especially for the Caribbean region where the majority of vehicles are second-hand imports.

#### 17. Enhance vehicle operational efficiency through:

- Training and information awareness
- Maintenance and inspections
- In vehicle feedback systems

The way vehicles operate and are maintained influences their overall efficiency. Therefore governments should promote and support operational efficiency measures for both light and heavy-duty vehicles. These measures could include eco-driving as part of the process for obtaining a driver's license, ongoing information and awareness campaigns to educate drivers on preventative maintenance, and ensuring regular mandatory inspections for existing vehicles to confirm these are properly maintained and any efficiency losses are reduced. Governments can also work together to require manufacturers to install in-car eco-driving feedback systems in new cars.

Avoid

Improve

Shift

# Industry

The industrial sector, in Latin America and also in some countries in the Caribbean, is a key driver of economic growth and represented 32% of the total final energy consumption in the region in 2012. The most common energy-intensive industries present in the region include agro industry, mining, chemicals, pulp and paper, iron and steel and cement.

There is substantial potential for energy efficiency in the industrial sector and therefore governments should promote actions to overcome existing challenges such as lack of availability of energy efficient technologies and energy tariffs that do not reflect the real market cost.

When developing policies aimed at the industrial sector, it is important to consider the differences in patterns of energy consumption between sub-sectors and the size of the business so that well targeted policies and incentives can be implemented.

It is also essential for governments to put in place policies that support the creation of energy efficient products and services. One of the effective vehicles for energy efficiency improvements is through energy service companies (ESCOs) which are still at their early stages of development in many countries in the region. ESCOs can support the uptake of energy efficiency by providing technical expertise, conducting energy audits and identifying cost-effective energy efficiency measures as well as mobilising investment for energy efficiency projects.

To achieve significant energy savings in this sector, the Roundtable participants recommend that governments:

#### 18. Promote energy management and energy efficiency projects through:

- Monitoring and reporting
- Benchmarking
- Preventative maintenance and loss reduction

Large energy-intensive industries should be encouraged to implement energy managements systems such as ISO 50001 or an equivalent energy management protocol. These systems enable the identification of energy efficiency measures, and facilitate regular monitoring and reporting of progress made on energy consumption and greenhouse gas emissions. The benchmarking of key indicators and statistics among industries at national, regional and global level can be beneficial to determine opportunities for improvements. For new industrial sites, governments should ensure energy efficiency technologies and measures are also identified during the design phase, especially if government financing is made available.

Governments should collaborate with relevant sector organisations, support knowledge exchange, and development and implementation of energy efficiency projects in the industrial sector. These energy efficiency projects should focus particularly on preventive maintenance and reducing energy losses which are important to industrial stakeholders.

#### 19. Promote high-efficiency industrial equipment and systems through:

- Minimum energy performance standards
- · Best available technologies
- · Training and capacity building

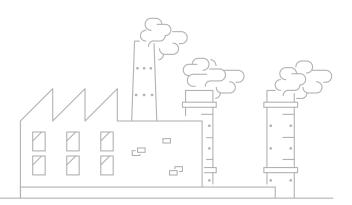
Governments should consider promoting energy efficient equipment and the adoption of minimum energy performance standards (MEPS) for industrial equipment appropriate to the region. The MEPS should be applied especially for electric motors, compressors, distribution transformers, pumps and boilers. The promotion of high efficiency equipment and systems, representing best available technology, should be adapted to the region and, where possible, supported by national and/or regional research and development efforts. Accelerating the adoption of energy efficiency in the industrial sector will generally require training and capacity building to ensure optimal operation and application of best practices. Increasing the uptake of high-efficiency equipment and systems will also require coordination between a range of stakeholders including research institutes and industrial associations.

# 20. Stimulate the development of energy efficient products and services for small and medium-sized enterprises (SMEs) Governments should consider the introduction of specifically designed policies and programmes for the promotion and

designed policies and programmes for the promotion and implementation of energy efficiency measures in SMEs. These may include:

- · Support mechanisms for promoting and conducting energy audits
- Provision of information and guidelines applicable to each subsector
- Regular capacity building activities including sharing of best practices and experiences
- $\bullet$  Supporting the development of financial instruments to reduce investment risk for local banks

Aggregating small energy efficiency projects from a number of SMEs can assist in attracting financing from the local banking sector and lowering transaction costs.



#### Prioritising Recommendations for Latin America and the Caribbean

This table prioritises the Energy Efficiency Policy Recommendations for Latin America and the Caribbean. The final column indicates their particular relevance to the Caribbean islands.

Ease of Relevance to

Recommendation	Policy type	Sector	Savings	Ease of implementation	Timeline (yrs)	the Caribbea
Strongly recommended to provide	strong foundati	on for national ene	ergy efficiency st	rategy		
1. Designate lead institutions for planning, coordinating, implementing, and monitoring energy efficiency policies and programmes  2. Establish regular energy	Institutional	All	N/A	Less difficult	1-2	High
efficiency data collection and indicators						
3. Remove inefficient energy subsidies	Economic		Very Large	Very difficult	3–5	
Recommended for immediate adop	ption by all gove	rnments in the reg	ion			
4. Stimulate investment in energy efficiency	Economic Information Regulatory	- All -	Significant	Can be complicated	2–5	Medium
5. Develop information and awareness campaigns and educational programmes	Information		Very Large	Less difficult	1–3	High
10. Implement mandatory MEPS and labels for appliances and equipment	Regulatory	Lighting, Appliances & Equipment		Monitoring & Enforcement	2–3	
11. Phase-out least efficient products				complicated	1–2	
12. Engage in regional collaboration and harmonisation of testing procedures	Regulatory Institutional		Significant	Difficult	2–3	
18. Promote energy management and energy efficiency projects	Regulatory	Industry	Large		1–2	
19. Promote high-efficiency industrial equipment and systems	Economic Information Regulatory		Very Large	Less difficult	fficult 2–3	Medium
Recommended for consideration b	y all governmer	its in the region an	d immediate ado	ption in most count	ries	
6. Improve the energy performance of building components and systems	Economic Regulatory	Buildings	Very Large Significant	Monitoring & Enforcement complicated	2-3	High
7. Improve building energy performance	Economic Information Regulatory					
14. Improve transport system planning and efficiency	Economic Information Institutional Regulatory			Very difficult	5–10	Medium
15. Implement mandatory vehicle efficiency standards and labelling	Regulatory			Can be complicated	1-2	High
17. Enhance vehicle operational efficiency	Information			Less difficult		Medium
20. Stimulate the development of energy efficiency services for small and medium-sized enterprises (SMEs)	Economic Information Regulatory	Industry	Large	Can be complicated	2–3	Low
Recommended for consideration a	nd adoption					
8. Implement energy labels, certificates or disclosure of energy consumption	Information Regulatory	Buildings  Lighting, Appliances & Equipment  Transport	Large	Less difficult	2–3	Low
9. Aim for net-zero energy consumption in buildings	Economic Regulatory			Difficult	5–10	
13. Promote market transformation policies	Economic Information		Significant -	Can be complicated	1–3	High
16. Promote fuel-efficient non- engine components through standards and test procedures	Regulatory				1–2	Low